SUMMARY OF
EP-3E MISSION AVIONICS SYSTEMS TRAINER (MAST)

February 1997 — Device 10H1B

NAVAL AIR WARFARE CENTER TRAINING SYSTEMS DIVISION ORLANDO, FLORIDA

**TRAINING CATEGORY:**

ELINT Training

**ORIGINATING AGENCY:**

NAVAIR

**SECURITY CLASSIFICATION OF DEVICE:**

Unclassified. Classified only when operating Navy developed training scenario software or is the scenario becomes resident within the trainer.

**PURPOSE OF DEVICE:**

To provide training for entry level enlisted operators.

**INTENDED USE:**

The Device 10H1B will provide training for entry level operators. It will be used to provide practical skills application to support the following basic requirements of signal recognition, search techniques, signal analysis, signal intercept, and other fusion sources.

**FUNCTIONAL DESCRIPTION:**

Device 10H1B is an ESM operator training device comprised of one instructor station, six individual student stations, a threat signal simulator subsystem interconnected by a network hub via an ethernet local area network and intercom system for audio and voice communications. Operational capabilities and instructional/simulation features are provided primarily through computer hardware and associated software, functionally distributed among the four basic building block elements. Instructor/trainee voice communications and signal audio distribution for student monitoring, recognition, and analysis training are facilitated through a voice intercom system.

Each student station includes an IBM compatible personal computer system and a 21" 1280 x 1024 resolution monitor with resident software. This basic operating system is Microsoft Windows NT workstation plus emulation unique software which provides the following: AN/ALR-44 narrow band receivers (two), ALR-82 wide band (CMX) receiver, IP-1159 Pulse Analyzer, Pre-Amp Control, OE-320 DF and Antenna Control, XYZ DF Display,

Digital Communication Interfaces (DCI), and Video Select control emulation software, pulse analyzer system (provided as GFE), and an intercom system equipped with microphone and headphone.

The instructor station includes an IBM compatible personal computer (dual pentium) and a 21" 1280 x 1024 resolution monitor with Microsoft Windows NT Advanced Server as the basic operating system. A master select control unit with microphone and headset makes up the interface to the intercom system. The Instructor Station training engine software is comprised of the Excalibur Threat Simulator Scenario generation and operation. This provides the control features necessary to develop, store, retrieve, review, edit/modify, select, load and run exercise scenarios through cooperative interaction with the Threat Signal Simulator subsystem and Student Stations. The Sun Sparc Workstation provides the instructor control over the mission unique software. The intercom system provides the necessary control/selections for the instructor to establish voice networks, audio monitoring, and student conferencing.

The Threat Signal Simulator consists of a single cabinet containing all hardware necessary to produce and generate authentic real-time threat signals, video and audio, representative of intercepted signals including effects of the modeled/simulated equipment.

Digital data communications are provided through an Ethernet LAN employing a 24-Port Network Hub. This provides the necessary digital link between the Student Stations, Instructor Station, and Threat Simulator.

The Intercom System provides the voice network to enable communications between the instructor and students. It serves as the distribution media for signal audio from the Threat Signal Simulator to the Student Stations based on the individual trainee actions via the emulated DCI at their respective station. The system allows for establishing voice networks for team training and provides the instructor signal audio monitoring of selected student stations.

**PHYSICAL INFORMATION:**

The Device 10H1B will reside in a room that has a minimum of 1,513 square feet of floor space. The room must be at least 16'2" wide by 29'7" long.

**EQUIPMENT REQUIRED (Not supplied)**

None

**POWER REQUIREMENTS:**

Total trainer requirements: 120 vac, 60 Hz, 53.73 amps, 6,422 watts, 19,206 Btu/hr

**PUBLICATIONS FURNISHED:**

System Interface Manual for the EP-3E Mission Avionics System Trainer (MAST), Device 10H1B, NAWCTSD P-7239 (U)

Training System Utilization Handbook for the EP-3E Mission Avionics System Training (MAST), Device 10H1B, NAWCTSD P-7241 (U)

**PERSONNEL:**

Instructor: Fleet experience in electronic warfare and intelligence

Student: ESM operators assigned to VQ-1, VQ-2, or the EP-3.

Maintenance: Three year technician

**CONTRACT DESCRIPTION:**

Developed by Electronic Warfare Associates, Inc., Orlando, Florida under Contract No. N68786-89-C-6145.